

## CLAIMS

1. A process for producing a coated granular road material,  
using at least one organic binder and at least one  
5 inorganic binder, wherein:

- at least two distinct granular fractions are used, a  
first fraction, called a coarse granular fraction,  
consisting of coarse and/or medium aggregates, and a second  
10 fraction, called a fine granular fraction, consisting of  
fine aggregates,

- the aggregates of the coarse granular fraction are coated  
with the organic binder so as to form a first phase, called  
15 the organic coarse phase,

- the aggregates of the fine granular fraction are mixed  
with the inorganic binder and with a quantity of makeup  
water, so as to form a second phase, called the inorganic  
20 fine phase,

- the organic coarse phase and the inorganic fine phase are  
mixed so as to obtain a material that is ready to be spread  
or stored.

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2. A process as claimed in claim 1, wherein the coarse  
granular fraction is coated cold.

3. A process as claimed in either of claims 1 or 2, wherein  
30 the coarse granular fraction has a particle size  
distribution  $d/D$ , with  $d$  comprised between 2 and 4 mm and  $D$   
comprised between 6 and 20 mm.

4. A process as claimed in one of claims 1 to 3, wherein the fine granular fraction has a particle size distribution 0/d, with d comprised between 2 and 4.
- 5 5. A process as claimed in one of claims 1 to 4, wherein use is made, as an organic binder, of a binder chosen from pure bitumen, fluxed bitumen, cutback bitumen, an emulsion of pure bitumen, an emulsion of a fluxed bitumen, an emulsion of a cutback bitumen, a pure bitumen foam, a  
10 fluxed bitumen foam, a cutback bitumen foam, a thermoplastic resin, a thermoplastic resin emulsion, a thermosetting resin, a thermosetting resin emulsion, an acrylic resin, a resin based on monomers and/or polymers of ethyl vinyl acetate, a resin based on monomers and/or  
15 polymers of styrene butadiene styrene, an emulsion of one of the aforementioned resins, or a mixture of several of the aforementioned organic binders.
6. A process as claimed in claim 5, wherein an emulsion is  
20 used as the organic binder and breaking of the emulsion in the organic coarse phase is waited for or brought about before the organic coarse phase and the inorganic fine phase are mixed.
- 25 7. A process as claimed in claim 6, wherein a fast- or medium-break emulsion is used as the organic binder, having a break index adapted so that the emulsion breaks as soon as all the aggregates of the coarse granular fraction are wetted by the emulsion.
- 30 8. A process as claimed in claim 7, wherein a coarse granular fraction is used with a silico-calcic base and, as an organic binder, an emulsion containing at least one

cationic emulsifying agent and at least one amphoteric emulsifying agent.

9. A process as claimed in claim 8, wherein an emulsion is  
5 used of which the emulsifying agents comprise 20 to 60 % cationic agents and 80 to 40 % amphoteric agents.

10. A process as claimed in claim 7, wherein a coarse granular fraction is used with a basic character and, as an  
10 organic binder, an emulsion containing at least one anionic emulsifying agent and at least one amphoteric emulsifying agent.

11. A process as claimed in claim 6, wherein breaking of  
15 the emulsion is brought about by means of a composition, called the breaking composition, chosen from lime water, a composition based on powdered quick or slaked lime, a composition based on an inorganic binder and in particular a binder based on metakaolin and lime.

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12. A process as claimed in one of claims 1 to 11, wherein use is made, as an organic binder, of an emulsion of a soft bitumen with a penetrability greater than or equal  
to 60/70.

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13. A process as claimed in one of claims 1 to 12 for producing a road material for a surface course, wherein use is made, as an organic binder of a hydrocarbon binder based on bitumen, in a quantity such that the weight of residual  
30 bitumen after mixing the organic coarse phase with the inorganic fine phase, lies between 1.5 and 4.5 % of the total weight of dry aggregates.

14. A process as claimed in one of claims 1 to 12 for producing a road material for a structural course, wherein use is made, as an organic binder, of a hydrocarbon binder based on bitumen, in a quantity such that the weight of residual bitumen after mixing the organic coarse phase with the inorganic fine phase, lies between 0.5 and 2.5 % of the total weight of dry aggregates.

15. A process as claimed in one of claims 1 to 14, wherein the aggregates of the coarse granular fraction are pre-wetted with water before they are coated.

16. A process as claimed in one of claims 1 to 15, wherein the aggregates of the coarse granular fraction are washed, before they are coated, with a view to removing any fine particles.

17. A process as claimed in claim 16, wherein the fine particles removed are incorporated into the inorganic fine phase by recycling the wash water.

18. A process as claimed in one of claims 1 to 17, wherein the coarse granular fraction is coated in several steps: the coarse aggregates are mixed with the organic binder so as to obtain partial coating of the coarse aggregates, the medium aggregates are then added and everything is mixed.

19. A process as claimed in one of claims 1 to 18, wherein the aggregates of the coarse granular fraction are lacquered, before being coated, with an inorganic composition, called the lacquering composition, chosen from lime water, a composition based on powdered quick or slaked lime, a composition based on an inorganic binder such as a

binder based on metakaolin and lime, used in a quantity such that it comprises a weight of dry matter between 0.5 and 2 % of the total weight of dry aggregates.

5 20. A process as claimed in claim 19, wherein the excess lacquering composition is recycled in the inorganic fine phase.

21. A process as claimed in one of claims 1 to 18, wherein  
10 there is introduced progressively into the organic coarse phase as it forms, an inorganic composition, called a lacquering composition, chosen from lime water, a composition based on powdered quick or slaked lime, a composition based on an inorganic binder such as a binder  
15 based on metakaolin and lime.

22. A process as claimed in one of claims 1 to 21, wherein use is made, as an inorganic binder, of a pozzolan binder comprising 50 to 70% by weight of metakaolin and 30 to 50%  
20 by weight of lime.

23. A process as claimed in one of claims 1 to 22, wherein a quantity of makeup water is used such that the quantity of residual water in the mixture of inorganic fine and  
25 organic coarse phase does not exceed 2 % by weight of said mixture.

24. A process as claimed in one of claims 1 to 23 for producing a road material for a surface course, wherein a  
30 quantity of inorganic binder is used of between 2 and 5 % of the total weight of dry aggregates.

25. A process as claimed in one of claims 1 to 23 for producing a road material for a structural course, wherein a quantity of inorganic binder is used of between 2 and 8 % of the total weight of dry aggregates.

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26. A process as claimed in one of claims 1 to 25, wherein the coarse granular fraction represents 55 to 70 % of the total weight of fine and coarse granular fractions.

10 27. A process as claimed in one of claims 1 to 26, wherein the fine granular fraction and the inorganic binder together comprise between 6 and 15 % of elements with a size less than 80  $\mu\text{m}$ , on the total weight of dry aggregates.